DOCUMENT RESUME

ED 415 824 HE 030 975

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TITLE Persistence among Non-Traditional Hispanic College Students: A Causal Model. ASHE Annual Meeting Paper.
PUB DATE 1997-11-06
NOTE 47p.; Paper presented at the Annual Meeting of the Association for the Study of Higher Education (22nd, Albuquerque, NM, November 6-9, 1997).
PUB TYPE Reports - Research (143) -- Speeches/Meeting Papers (150)
EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Academic Persistence; College Environment; Community Colleges; Cultural Influences; Enrollment Influences; Family Influence; *High Risk Students; *Hispanic Americans; Nontraditional Students; Predictor Variables; School Holding Power; Social Influences; Statistical Analysis; *Student Adjustment; Student College Relationship; *Two Year College Students; Two Year Colleges
IDENTIFIERS *ASHE Annual Meeting; *Hispanic American Students

ABSTRACT

This study examined environmental and institutional factors affecting persistence of Hispanic college students. The sample of 324 first- and second-year students surveyed in the spring of 1995 included students who were enrolled in programs at a private, Illinois, bilingual junior college which were established to educate students who were older, ill-prepared academically, out of school for a long time, and lacked financial resources. Structural equation modeling was used to explore the effect of the following variables: grade point average, mathematics ability, family and home responsibilities, financial problems, cultural affinity, social integration, satisfaction with faculty, academic difficulty, academic integration, goal commitment, institutional commitment, intent to persist, and encouragement and support that students receive from family, peers, and college staff, in a comprehensive model of student persistence. Findings confirmed the validity of the model to explain students' social and academic adjustment but not the impact of those experiences on their persistence. College-related factors such as social experiences, academic difficulty, and attitudes toward faculty influenced student commitments to degree completion and to the college. Despite expressed intentions to continue their college program, students' return to college in the fall seemed to be affected by factors outside the campus. A list of factor scale items is appended. (Contains 51 references.) (SW)

Persistence Among Non-Traditional Hispanic College Students: A Causal Model

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Paper presented at the annual meeting of the Association for the Study of Higher Education, Albuquerque, New Mexico, November, 1997.

Abstract

Few higher education studies are related to the persistence of Hispanic community college students. Utilizing Nora and Cabrera's (1996) comprehensive model of student persistence, the present study examined environmental and institutional factors appropriate to an Hispanic two-year college population. Structural equation modeling via LISREL provided parameter estimates of causal links among the variables in the hypothesized model. Findings confirmed the validity of the model for explaining the social and academic adjustments of Hispanic students at a two-year institution, but not the impact of those experiences on persistence.

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This paper was presented at the annual meeting of the Association for the Study of Higher Education held in Albuquerque, New Mexico, November 6-9, 1997. This paper was reviewed by ASHE and was judged to be of high quality and of interest to others concerned with higher education. It has therefore been selected to be included in the ERIC collection of ASHE conference papers.

One of the most pressing issues facing higher education today is to determine how to increase the number of minority students who earn college degrees. Among minorities in the United States, Hispanics are the fastest-growing group: census projections indicate that Hispanics will comprise 11.3 percent of the U.S. population by the year 2000, and 30 percent by 2010 (Statistical Abstract of the U.S., 1995). The Hispanic growth rate is five times the rate of increase of the non-Hispanic population (DeLaRosa & Maw, 1990). Attention to the educational needs of this population group is critical so that they can contribute significantly to society in the future as citizens, members of the labor force, and parents of the next generation. Although there is a difference in education levels for different groups within the Hispanic population (Cuban-Americans being the most highly educated and Mexican-Americans having the least formal education), the overall education level is low in comparison with the U.S. population as a whole. Almost forty percent of the Hispanic 18 to 24 year old population did not complete high school in 1994, as compared to 14 percent of Whites and 26.5 percent of African-Americans (Statistical Abstract of the U.S., 1995). College participation rates for Hispanics have been declining for the past few years, from 37 percent in 1992 to 33.2 percent in 1994. A comparison of college participation rates among these three population groups over the past 20 years shows gains of 12 percent for White students and almost 9 percent for African-American students, while the gain for Hispanic students has been less than one percent (Carter and Wilson, 1996).

By 1993 Hispanics age 25 and older had earned only 5.9 percent of all associate degrees and 3.9 percent of all baccalaureate degrees granted, even though they comprised 8.2 percent of the U.S. population (Ibid.). And while the percentage of Hispanics earning such degrees over the past twelve years has grown slightly (from 4.3 percent of associate and 2.3 percent of baccalaureate degrees in 1981), the increase in number has been small (Ibid.). Indeed, it seems that the movement toward educational integration of Hispanics

is backwards, in comparison to the gains that were made in the previous decades (Angel & Barrera, 1991).

Most Hispanic students in higher education begin in community colleges (56 percent), a much higher percentage than for non-Hispanic Whites or African-Americans (DeLaRosa & Maw, 1990). Unfortunately, students beginning at community colleges have low persistence and transfer rates. Only 23 percent of White students transfer to a four-year institution, and an even smaller group, 12 percent, of Hispanic and African-American students continue their studies (Henriksen, 1995). Once they do transfer, many students do not complete the bachelor's degree. An analysis of the National Longitudinal Survey of the High School Class of 1972 showed that 49.3 percent of community college entrants, as compared to 96.2 percent of four-year college entrants, reached their junior year in a four-year institution (Dougherty, 1992). Of students who transfer, about a third drop out within five years before completing their degrees (Ibid.). The evidence for minority students is even more discouraging. Over the past 20 years the increase in college completion rates for Hispanic high school graduates between the ages of 18 and 24 was 0.7 percent, Whites no change, and African-Americans an increase of 10 percent (Carter and Wilson, 1996). Why are the completion rates for Hispanics so low?

Hispanic students face barriers to persistence because of their age (they are older), low socioeconomic status, and low academic performance (Chacón, Cohen & Strover,1986). The academic barriers which arise because these students have poor academic performance in high school, poor study habits, and parents who are not well-educated, makes them dropout-prone (Dougherty, 1992; Chacón et al,., 1986). Furthermore, institutional barriers limit these students' academic, social and cultural integration into college, exacerbating the conditions that can lead to their failure to compete the two-year or four-year degree (Dougherty, 1994; Rhoads and Valadez, 1996).

Dismal retention rates for minority students, particularly at two-year colleges, continue to be of concern to administrators, researchers, and faculty members. Despite

enrollment figures that indicate that approximately 39 percent of all students in higher education are enrolled in community colleges and 56 percent of Hispanic students attend two-year institutions (Carter and Wilson, 1996), few studies have been proposed and conducted that address issues of retention and attrition among these students. Because many urban institutions enroll a much higher percentage of minority students who tend to have the lowest persistence rates, designing and implementing policies and programs aimed at successful retention intervention with these students remains one of the most pressing issues facing administrators in community colleges. This undertaking, however, first requires an understanding of appropriate explanatory models and the many factors influencing persistence decisions.

Conceptual Framework and Literature Review

Over the years several theories have been advanced to explain the college persistence process of students (Bean, 1983; Spady, 1970; Tinto, 1975, 1987). Two such theories that provide theoretical frameworks on college departure decisions are Tinto's (1975, 1987) Student Integration Model and Bean's (1982b) Student Attrition Model. Tinto's (1975, 1987) model provides the theoretical foundation for numerous studies on the retention of traditional college students, especially resident students at four-year institutions (Pascarella and Terenzini, 1979, 1980; Pascarella, 1980; Pascarella, Duby, Miller, and Rasher, 1981; Pascarella and Chapman, 1983). The model has also been the foundation for studies of retention and transfer of nontraditional students attending two-year institutions (Nora, 1987; Nora, Attinasi and Matonak, 1990; Nora and Rendón, 1990; Horvath, 1991). In general, these studies have validated the use of Tinto's (1975, 1987) attrition model to study the persistence process among different student populations.

Likewise, the Student Attrition Model (Bean, 1980) has been validated as explaining student persistence behavior in higher education (Bean, 1982a, 1983, 1985; Metzner and Bean, 1987). Bean's (1985) conceptual model builds on models of attitude-behavior interactions (Bentler and Speckart, 1979, 1981) stressing the importance of behavioral intentions (stay or leave) as predictors of persistence and recognizing that factors in the external environment can affect students' attitudes and behaviors. Results from studies using the model (Bean, 1980, 1982a, 1983, 1985; Metzner and Bean, 1987) are largely supportive of the influence of environmental variables on attitudes and intents, and the effect of intent to persist on dropout behavior.

While the Tinto (1975, 1987) model specifically focuses on the interaction between the student and the social and academic systems of the institution, Bean's (1980) model stresses environmental influences in persistence decisions. A study suggesting that the two theoretical frameworks can be integrated into one model was first introduced by Cabrera, Nora, and Castaneda (1993). Research by Nora and associates (Nora and Cabrera, 1993; Cabrera, Nora, and Castaneda, 1993) has resulted in a comprehensive model of student persistence, the Student Adjustment Model (Nora and Cabrera, 1996), that integrates the theoretical constructs first introduced by Bean (1980) and Tinto (1975, 1987) and builds on the theoretical framework to incorporate factors previously omitted in persistence models.

In a test of model convergence, Cabrera, Nora and Castañeda (1992) found considerable overlap between Tinto's (1975, 1987) and Bean's (1985) models of college persistence. Their study not only demonstrated the similarities in factors identified by different names by both authors but also substantiated the need to merge the two

theoretical perspectives such that neither model was misspecified because of the omission of important constructs from the separate frameworks. Nora and Cabrera's (1996) Student Adjustment Model built on previous studies that established the influence of a student's satisfaction with financial aid (Cabrera and Nora, 1993), support and encouragement from significant others (Nora, 1987; Nora and Wedham, 1991; Cabrera, Nora, and Castaneda, 1992, 1993), work off-campus (Cabrera and Nora, 1993; Nora and Wedham, 1991), and family responsibilities (Nora and Wedham, 1991) on the persistence process.

Recognizing the importance of both environmental and institutional factors, this study utilizes a comprehensive model of student persistence as proposed by Nora and Cabrera (1996) to investigate the salient factors in the retention process among non-traditional Hispanic students in a private, urban two-year college. In addition to factors included in previous retention studies, the present study will test the impact of specific academically-related student attitudes such as the student's perception of the academic rigor of the curriculum, his or her ability to handle academic demands, and his or her satisfaction with the instruction received from faculty on persistence decisions. Moreover, the study will incorporate the influence of cultural affinity on intervening variables and persistence outcomes as previously found on a similar student population (Kraemer, 1995). Four pre-college factors will be examined: the student's mathematics ability upon entering college (Tinto, 1975, 1987), family responsibilities (Aitken, 1982; Bean and Metzner, 1985; Chacón, Cohen and Strover, 1986), financial problems (Cabrera, Nora and Castañeda, 1992, 1993) and encouragement to continue in college (Metzner and Bean, 1987; Nora, 1987; Nora and Rendón, 1990; Nora and Wedam, 1991; Cabrera, Nora and Castañeda, 1992, 1993). Academic and social integration (Pascarella, 1980;

Terenzini and Pascarella, 1980; Pascarella and Chapman, 1983), academic difficulty, academic performance (Cabrera, Nora and Castañeda, 1992; Cabrera, Castañeda, Nora, and Hengstler, 1992), satisfaction with faculty, and cultural affinity will be included to identify the influence of the student's experiences in college on his or her intention to persist and on actual persistence behavior. The study will also test the influence of the student's educational goal commitment and commitment to the two-year institution attended (Pascarella and Terenzini, 1980; Pascarella and Chapman, 1983; Nora, 1987; Nora and Cabrera, 1991), and intent to persist (Bean, 1985; Cabrera, Nora and Castañeda, 1992, 1993) in relation to a persistence decision.

Research Design

Sample and Procedures

The student population (n=324) consisted of first- and second-year community college students enrolled in programs of study that required continuous enrollment for 3 years. The two-year institution, a private bilingual junior college in Illinois, was established to address the issue of the underrepresentation of Hispanic adults in postsecondary education and to provide a bridge institution to mainstream American life. The sample for the study was comprised of all students who completed a survey at the end of the Spring 1995 semester. Students were surveyed in the classroom to avoid the issue of a low response rate. All students were required to complete the survey. To ensure a representative sample of students at the institution, courses were selected at random from the college's schedule of courses. Classes from all disciplines, locations (main campus versus satellite campuses), morning and evening classes were selected to provide

a sampling of students with different characteristics (i.e., work schedules, family responsibilities, travel restrictions, and majors).

Variables in the Study

Precollege Factors

Four exogenous variables in the causal model provided measures of precollege factors: the mathematics ability of the students, family and home responsibilities, financial circumstances faced by the student and his or her family, and the degree of support and encouragement that was received by the students from their families. A score on the institution's mathematics placement test, taken at admission, served as a measure of Mathematics Ability. The use of the mathematics scores as a proxy for ability was necessary because some students in the sample received their high school diplomas in countries other than the Untied States or outside of a high school setting and it was not possible to use high school grades, class rank, or grade-point averages as indicators of the student's potential academic ability at entrance. Moreover, scores on an English placement test could not be utilized because the method of scoring the instrument was different for different groups of students. The mathematics placement score provided the only means of measuring potential academic ability when the students first entered college.

Family and home responsibilities that may detract students from their studies was measures through four multiple indicators of the construct. Students were asked to respond to the following items: (1) "Caring for family members has made it difficulty for me to study," (2) "Housework has made it difficult for me to study," (3) "Family

pressures have made it difficult for me to study," and (4) "Family problems have made it difficult for me to study."

Financial Problems, the perception of students that financial circumstances detracted from their studies, was measured through a single item. Students were asked to report the degree of agreement or disagreement to "Financial difficulties have made it difficult for me to study."

Support and encouragement from significant others to continue an education in college was provided by five multiple indicators. These included: (1) "Family members have encouraged and supported me in my decision to study," (2) "Friends have encouraged and supported me in my decision to study," (3) "Fellow students have encouraged and supported me in my decision to study," (4) "Teachers have encouraged and supported me in my decision to study," and (5) "Advisors have encouraged and supported me in my decision to study."

Intervening Variables

Cultural Affinity, the students perceptions that they belong at their institution because of cultural similarities with faculty, staff, and students was measured through three indicators. The three multiple indicators were: (1) "Hispanic faculty and staff help me to feel at home in this institution," (2) "Other Hispanic students help me to feel at home in this institution," and (3) "Hispanic cultural activities help me to feel at home in this institution."

The student's integration into the social environment on campus was provided by a single item: "Since coming to this institution, I have developed close personal relationships with other students." No other items were used to measure the degree of

social integration by students. It was believed that much of the socialization process for Hispanic students at the two-year institution was affected by the interactions with persons from the same background in a compatible cultural environment and, consequently, there would be an overlap with measures of the social integration of students. For this reason, a single item that would reflect the development of relationships with other students independent of the cultural influence was used.

Satisfaction with the relationships with faculty and instruction by faculty were measured by four items. Multiple indicators of the latent construct included: (1) " I believe the instructors are well prepared for their jobs," (2) "I have good relationship with my instructors," (3) "I believe that I have learned how to study effectively," and (4) "The instructions my teachers give me are clear."

The degree to which students become academically integrated at their institution was measured by five indicators. Students were asked to report how frequently they used the library, sought tutoring, used the computer lab outside of class, met with instructors outside of class, and met with their academic advisors.

The degree to which students reported that they had difficulty with their studies was measured by four indictors: "I find classes at this institution to be more difficult than I expected," "I have problems understanding what I read in English," "The textbooks are too hard to read," and "The teachers are very demanding."

Two intervening factors provided measures of the student's commitment to earning a degree and to his or her institution. The desire to earn a college degree was measured by one item: "It is important for me to get a college degree." A student's commitment to the institution was measured by four indicators: "I would recommend to

my friends and relatives to come to this institution to study," "This institution is important in my life," "I am certain that this institution is the right choice for me," and "I feel like I belong at this institution."

The final intervening variable, Academic Performance (GPA), was the cumulative grade-point average at the end of the first year. All variables with the exception of Mathematics Ability and Academic Performance were measured though Likert scales with "1" indicating Strongly Disagree to "5" reflecting Strongly Agree.

Outcome Measures

The student's intent to persist in college, the first outcome measure in the causal model, was indicated by a response to "It is likely that I will re-enroll next semester." This variables was also measured through the use of a Likert scale. The final outcome measure, persistence behavior, was a dichotomous variable that was retrieved from institutional files at the beginning of the fall semester of the student's second year. Those students who re-enrolled in college after their first year were considered persisters while those whose records indicated that they had not enrolled for any courses were considered non-persisters.

Data Analysis

Structural equation modeling and confirmatory factor analysis (Anderson and Gerbing 1985, 1988) via LISREL 8.2 (Joreskog and Sorbom, 1991) were employed in estimating parameters. This technique involves the separate estimation of the measurement model prior to the simultaneous estimation of the measurement and structural submodels.

PRELIS (Joreskog and Sorbom, 1991) was used to compute polyserial, polychoric correlations for the quantitative model. PRELIS enables the estimation of the correct correlations among ordinal, categorical, and continuous variables and produces an estimate of the asymptotic covariance matrix under arbitrary non-normal distributions (Browne, 1982, 1984). Because polyserial, polychoric correlations were used and because departures from the assumption of normality were observed among the variables, the asymptotic covariance matrix, estimated by PRELIS, was analyzed via LISREL using a weighted least square (WLS) solution. The WLS method process asymptotically correct standard errors and X^2 values under non-normality when one or more of the observed variables are ordinal (Joreskog and Sorbom, 1991).

In judging the goodness of fit of the overall models, the chi-square, the Goodness of Fit Index (GFI), the Adjusted Goodness of fit Index (AGFI), the root Mean Square Residual (RMR) and the total coefficient of Determination (TCD) for the structural model were employed. Joreskog and Sorbom (1989) and Bentler and Bonett (1980) advise against the sole use of the chi-square value in judging the overall fit of the model because of the sensitivity of the chi-square to sample size. Bentler and Bonett (1980) proposed the Normed Fit Index, which involves a comparison of a given model to the null model when all the o observed variables are constrained to be indpendent of each other. To the extent to which the difference in the fit function of the hypothesized model is large relative to the fit function of the null model, the NFI will approach one, indicating that most of the sample covariance matrix has been accounted for (Bentler and Bonett, 1980; Widaman, 1985; Hom and Griffeth, 1991; Nora and Cabrera, 1993). However, a corrected Normed

Fit Index (NFI2) proposed by Mulaick et al. (1989) was used with values or .9 or higher, generally accepted as indicators of a good fit.

Results

Initially, scales for the different latent constructs in the measurement model were tested and validated through a series of exploratory and confirmatory factor analyses. Only variables that demonstrated validity and high reliability were retained as scales to represent factors in the model. Scale items and reliability coefficients are displayed in the Appendix. All scales were found to demonstrate Cronbach Alpha reliability coefficients greater than .60.

The causal model tested was a valid representation of the underlying conceptual framework as substantiated by a variety of indices. Although the chi-square value of 76.45 indicated that the data did not fit the model (p=.000), the chi-square/degrees of freedom ratio (2.25), the goodness-of-fit (.988) and the adjusted goodness-of-fit (.963) indices were well within acceptable ranges. The root mean square residual (.051) also provided support for the model.

Figure 1 displays the direct paths found to be significant in the model. Results provide support for variables included in the model. The exogenous variables (mathematics ability, family and home responsibilities, financial problems, and encouragement and support) were found to influence college social and academic attitudes and behavior. College-related factors such as social experiences, academic difficulty, and attitudes towards faculty exerted an influence on student commitments to the institution and to degree completion. Institutional and goal commitments, as well as academic performance, influenced student intentions to re-enroll while only academic

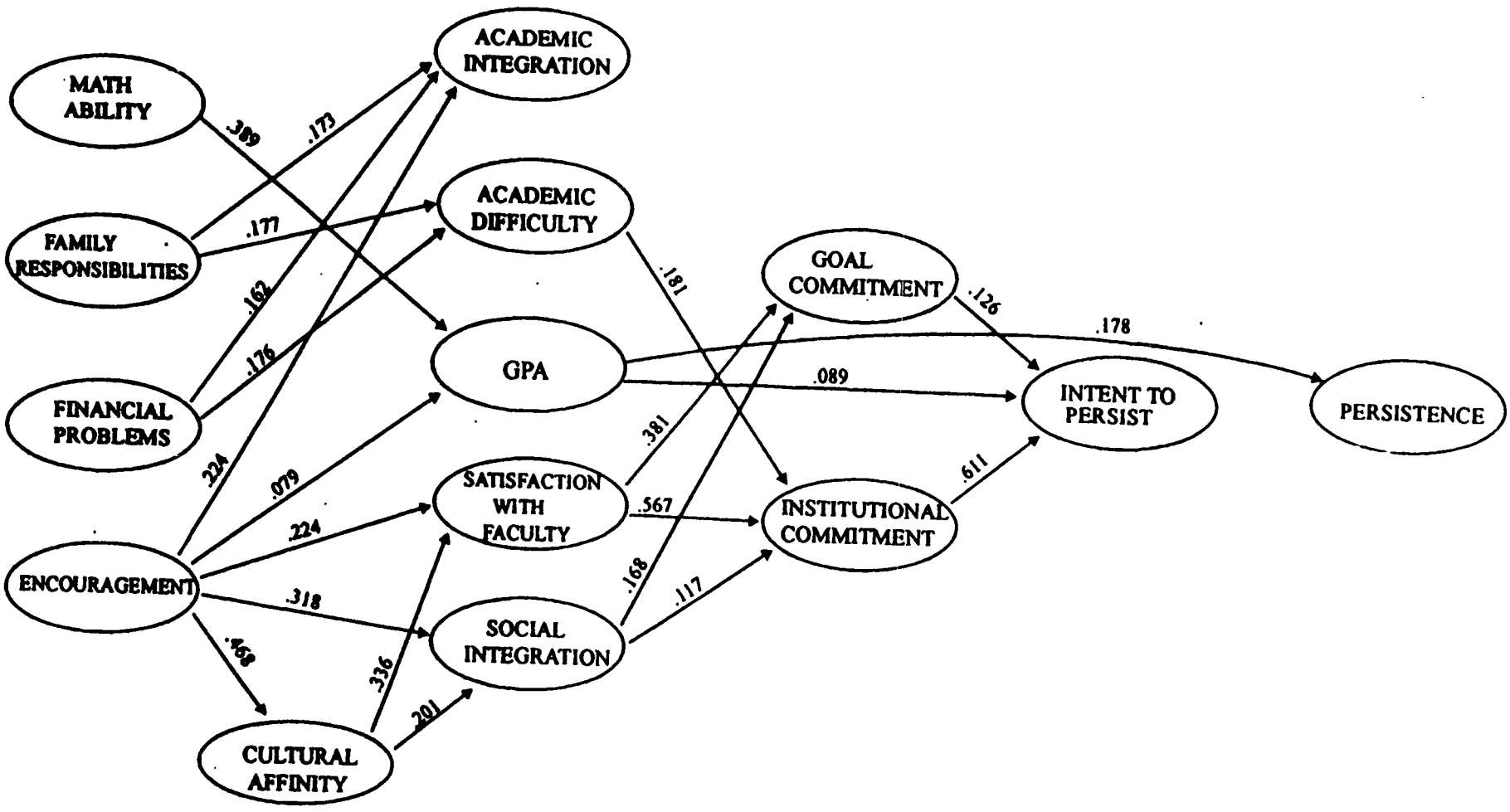

Figure 1. Persistence Causal Model
(Only significant paths shown)

performance seemed to have a significant impact on whether students actually did continue studying at the institution. Tables 1 through 10 display results of the structural equations tested in the model.

Cultural Affinity

The first structural equation tested for the effects of family and home responsibilities and encouragement and support from significant others on the degree of cultural affinity experienced by the student (see Table 1). Measures of encouragement were found to have a sizable and significant direct influence on cultural affinity (.468) while the impact of family and home responsibilities was not significant (.037). Students who received encouragement from persons both inside (advisors and faculty) and outside the institution (family and friends) were more likely to feel at home in the cultural environment of the institution. Twenty-two percent of the variance of cultural affinity was explained by encouragement (R^2=.22).

Social Integration

Table 2 displays results of the second equation tested in the model that examined the impact of family/home responsibilities, encouragement and support, and cultural affinity on the social experiences of students. Encouragement received from parents and teachers and cultural affinity were found to exert significant total effects on social integration. The largest influence on the social experiences of students in college was derived from encouragement and support (.412) followed by cultural affinity (.201). The effect of cultural affinity was direct while the total effect of encouragement and support on social integration was both direct (.318) and mediated by cultural affinity (.094). Students who received encouragement from significant others during their enrollment in

Table 1. Direct, Indirect, and Total Effects on Cultural Affinity

	Direct	Indirect	Total
Math Ability	-	-	-
Family Responsibilities	.037	-	.037
Financial Problems	-	-	-
Encouragement	.468*	-	.468*
		$R^2 = .22$	

*$p < .05$

Table 2. Direct, Indirect, and Total Effects on Social Integration

	Direct	Indirect	Total
Math Ability	-	-	-
Family Responsibilities	.002	.007	.009
Financial Problems	-	-	-
Encouragement	.318*	.094*	.412*
Cultural Affinity	.201*	-	.201*
		$R^2 = .20$	

*$p < .05$

college and who felt more comfortable with persons of the same cultural background in the college were more likely to establish close friendships with other students. Having to take care of family members and home-related duties was not found to significantly influence the social integration of students. The degree of encouragement and support received from others and the student's cultural affinity with the institution accounted for 20% of the variance in student social integration (R^2=.20).

Satisfaction with Faculty

Variables believed to be related to student satisfaction with their interactions with faculty and the instruction received by them were examined in the third structural equation (see Table 3). The degree of student satisfaction was found to be influenced by both encouragement and support from others and cultural affinity, but not by family and home responsibilities. The total effects of encouragement from parents and teachers (.341) and cultural affinity with the institution (.336) were similar. Again, the impact of cultural affinity on student perceptions of faculty and instruction received was direct, that of encouragement and support was exerted directly (.224) and indirectly through cultural affinity (.117). Students who were most satisfied with their professors were those receiving encouragement to continue their studies and those that enjoyed their contact with Hispanic students, advisors and faculty in the institution. Family/home responsibilities did not impact student satisfaction with faculty (.011). This equation accounted for 23% of the variance in student satisfaction with faculty (R^2=.23).

Academic Performance

Results of the equation assessing influences on grade point average are displayed in Table 4. The factor most correlated with student grades was initial mathematics ability

Table 3. Direct, Indirect, and Total Effects on Satisfaction With Faculty

	Direct	Indirect	Total
Math Ability	-	-	-
Family Responsibilities	-	.011	.011
Financial Problems	-	-	-
Encouragement	.224*	.117*	.341*
Cultural Affinity	.336*	-	.336*
		$R^2 = .23$	

*$p < .05$

Table 4. Direct, Indirect, and Total Effects on GPA

	Direct	Indirect	Total
Math Ability	.389*	-	.389*
Family Responsibilities	-.029	-	-.029
Financial Problems	.082	-	.082
Encouragement	.079*	-	.079*
Cultural Affinity	-	-	-
		$R^2 = .17$	

*$p < .05$

(.389). Encouragement and support from others also was found to have a small but significant effect on GPA (.079). Neither family/home responsibilities nor financial problems were significantly related to academic achievement. These results indicated that students who entered the college with more advanced knowledge of mathematics received higher grades. Also, those receiving encouragement from their parents, spouses, friends, and teachers tended to do better academically. However, these two factors accounted for only 17% of the variance in GPA (R^2=.17).

Academic Difficulty

The fifth structural equation in the model examined factors related to academic difficulty (see Table 5). While initial mathematics ability (-.068) was not found to have any impact on difficulties encountered with classes, family/home responsibilities (.177) and financial problems (.176) did influence the degree of difficulty with classes that students reported, and to a similar degree. Students that recorded having more familial responsibilities and financial problems expressed more difficulties with their courses. Only 7% of the variance in academic difficulty was explained by both factors (R^2=.07).

Academic Integration

The sixth structural equation examined the effects of initial math ability, family responsibilities, financial problems, encouragement, and cultural affinity on academic integration (Table 6). Three of the five variables were found to exert significant influences on academic integration. Total effects were most evident from encouragement (.247) followed by family responsibilities (.175) and financial problems (.163). These total effects included small non-significant indirect effects through cultural affinity. The results indicated that students who receive support from family, friends, advisors, and

Table 5. Direct, Indirect, and Total Effects on Academic Difficulty

	Direct	Indirect	Total
Math Ability	-.068	-	-.068
Family Responsibilities	.177*	-	.177*
Financial Problems	.176*	-	.176*
Encouragement	-	-	-
Cultural Affinity	-	-	-
		$R^2 = .07$	

*$p < .05$

Table 6. Direct, Indirect, and Total Effects on Academic Integration

	Direct	Indirect	Total
Math Ability	-.173	-	-.173
Family Responsibilities	.173*	.002	.175*
Financial Problems	.162*	.001	.163*
Encouragement	.224*	.021	.247*
Cultural Affinity	.044	.001	.045
		$R^2 = .15$	

*$p < .05$

faculty tended to become more integrated academically. In addition, students with more family responsibilities and financial problems also utilized support services such as computer labs, library facilities, tutoring, and advising more frequently. Encouragement, family responsibilities, and financial problems accounted for 15 % of variance observed in academic integration (R2=.15).

Goal Commitment

Table 7 displays the structural coefficients for factors affecting student goal commitment. The largest total effect was exerted by satisfaction with faculty (.381). Social integration (.168), cultural affinity (.162), and encouragement (.151) were also found to put forth significant influences on goal commitment. The influence of social integration on goal commitment was direct while that of cultural affinity and encouragement from others was mediated through social integration, satisfaction with faculty and other variables. These four factors explained 18% of the variance observed in goal commitment (R^2=.18). Students who were satisfied with their instructors and, to a lesser extent, who made friends, felt comfortable culturally, and received encouragement were more likely to value getting a college degree.

Institutional Commitment

Institutional commitment was influenced by a variety of factors (See Table 8). While direct effects were noted from satisfaction with faculty (.567), academic difficulty (.181) and social integration (.117), significant total effects (primarily exerted through indirect influence) were found from encouragement (.378), cultural affinity (.293), family responsibilities (.046), and financial problems (.028). The largest total effect on perceptions of whether students felt that the institution was right for them were noted

Table 7. Direct, Indirect, and Total Effects on Goal Commitment

	Direct	Indirect	Total
Math Ability	-	-.007	-.007
Family Responsibilities	-	.006	.006
Financial Problems	-	-.003	-.003
Encouragement	-.055	.207*	.151*
Cultural Affinity	-	.162*	.162*
Social Integration	.168*	-	.168*
Satisfaction with Faculty	.381*	-	.381*
GPA	-.027	-	-.027
Academic Difficulty	.021	-	.021
Academic Integration	-.028	-	-.028
		$R^2 = .18$	

*$p < .05$

Table 8. Direct, Indirect, and Total Effects on Institutional Commitment

	Direct	Indirect	Total
Math Ability	-	-	-.037
Family Responsibilities	-	.046*	.046*
Financial Problems	-	.028*	.028*
Encouragement	.078	.300*	.378*
Cultural Affinity	.076	.216*	.293*
Social Integration	.117*	-	.117*
Satisfaction with Faculty	.567*	-	.567*
GPA	-.060	-	-.060
Academic Difficulty	.181*	-	.181*
Academic Integration	.008	-	.008
		$R^2 = .50$	

*$p < .05$

from satisfaction with faculty, encouragement, and cultural affinity. This equation accounted for 50% of the variance observed in institutional commitment (R^2=.50).

Intent to Persist

The ninth structural equation assessed the effects of previous endogenous and exogenous variables on intent to persist (See Table 9). Institutional commitment (.611), goal commitment (.126), and GPA (.089) were found to exert significant direct influences on intent to persist. However, total effects were noted from five different variables. Institutional commitment (.611) had the largest total effect followed by satisfaction with faculty (.389), support and encouragement from others (.331), cultural affinity (.167), and goal commitment (.126). The total impacts of satisfaction with faculty, encouragement, and cultural affinity were comprised mainly of indirect effects. Students' intentions to re-enroll were influenced mostly by how much students felt they belonged at the institution, how satisfied they were with their professors, and how much encouragement they received. Forty-four percent of the observed variance in intent to persist was explained by factors in this equation (R^2=.44).

Persistence

The final equation examined the effects of all the variables in the model on student persistence decisions (See Table 10). Only GPA (.201) was found to have a significant total influence on students' decisions to drop out of college. This impact was primarily direct (.178). While institutional commitment was found to exert a significant indirect influence (.164), the total effect on persistence was negligible. Results revealed the importance of academic performance on Hispanic withdrawal decisions accounted for approximately 11% of the variance in persistence (R^2=.11).

Table 9. Direct, Indirect, and Total Effects on Intent to Persist

	Direct	Indirect	Total
Math Ability	-	.029	.029
Family Responsibilities	.021	.003	.024
Financial Problems	.012	.004	.016
Encouragement	.111	.220*	.331*
Cultural Affinity	-.016	.183*	.167*
Social Integration	.020	.094	.114
Satisfaction with Faculty	-.049	.438*	.389*
GPA	.089*	-.040	.049
Academic Difficulty	-.039	.114*	.074
Academic Integration	-.086	.002	-.084
Goal Commitment	.126*	-	.126*
Institutional Commitment	.611*	-	.611*
		$R^2 = .44$	

*$p < .05$

Table 10. Direct, Indirect, and Total Effects on Persistence

	Direct	Indirect	Total
Math Ability	-	.079	.079
Family Responsibilities	-.066	-.002	-.068
Financial Problems	.022	.013	.035
Encouragement	-.041	.123	.082
Cultural Affinity	.116	.010	.127
Social Integration	.030	.013	.043
Satisfaction with Faculty	.008	.009	.017
GPA	.178*	.022	.201*
Academic Difficulty	-.040	-.008	-.048
Academic Integration	.035	-.024	.011
Goal Commitment	.010	.034	.044
Institutional Commitment	-.158	.164*	.006
Intent to Persist	.268	-	.268
		$R^2 = .11$	

*$p < .05$

Discussion

The validity of persistence models based on a student/institution fit approach in explaining the adjustment and persistence of minority students has been questioned by several researchers (e.g., Bensimon, 1989; Tierney, 1992; Rendon, 1994). Most of the arguments made with regard to this topic revolve around the issue of how closely the constructs incorporated in those models reflect reality for different minority student populations. Cultural differences among different groups on campus may limit the applicability of a single view or perspective (e.g., social integration) for everyone. Rendon (1994) has noted that if a "If you build it, they will come" approach for student services is found on a campus, minorities are not apt to make use of those services. The results of the present study suggest that while the hypothesized model was found to be valid in explaining the social and academic adjustments of Hispanic students at a two-year institution, it was not suitable for estimating the influence of those social and academic experiences on persistence. The inability of the hypothesized model to explain student persistence for this particular Hispanic student population was attributed to the specific characteristics (both cultural and academic) of the sample of students.

Studies on college withdrawal decisions (e.g., Pascarella and Terenzini, 1980, 1983; Bean, 1980; Nora and Cabrera, 1996) have operationally defined academic integration differently. While there is a consistency among several studies (e.g., Nora and Cabrera, 1996; Cabrera, Nora, and Castaneda, 1993; Pascarella and Terenzini, 1980) in the scales used to measure this construct, it was believed that a different set of items that more closely reflected the manner in which the study's Hispanic students became

integrated on their campus would reduce any misspecification in the model. The results of this study suggest that Hispanic students that have a less than desirable academic preparation, a high level of family responsibilities, and are financially strapped are very likely to seek tutorial help, meet with instructors outside of class for assistance, and share their academic woes with an academic advisor. The measures of academic integration used to form the scale not only represent possible academic interest and involvement with faculty and staff, but may also reflect those circumstances (both financial and academic) that are prevalent among this Hispanic group. It is believed that the lack of a relationship between the student's integration into the academic environment of the institution and the decision to withdraw or stay in college may be more related to the latter.

The validity of the present model in explaining the adjustment of students in college is evident in those interrelationships found to be significant that reflect stude t/institution fit causal models. As has been found in other studies (Nora and Cabrera, 1996; Nora, Cabrera, Hagedorn, and Pascarella, 1996; Cabrera, Nora, and Castaneda, 1992, 1993), measures of the support and encouragement that students receive from family, friends, peers, and faculty; the relationships that they have formed with other students; and the degree of satisfaction of students with faculty and instruction were all found to significantly impact Hispanic students' commitments to their institution and to their intent to re-enroll the following academic year at the two-year institution. Moreover, as in the other studies previously mentioned, peer relationships and satisfaction with formal and informal interactions with faculty also were found to influence the student's commitment to earning a college degree. Both measures of commitment have been found to be very influential in affecting not only a student's intent to return but also actual

persistence behavior (e.g., Nora and Cabrera, 1996; Cabrera, Nora, and Castaneda, 1992, 1993; Pascarella and Terenzini, 1991). For this Hispanic student population, quite simply something happens between springtime when they say they will return and the fall when they don't. Descriptive investigations by the institution in the study reveal that their students generally do not leave this college to attend other colleges but drop out because these students must seek employment, work additional hours, or simply give up on a college education because they have far too many responsibilities at home.

While their intent to earn a college degree is high and their commitment to attaining their education at their two-year institution may truly affect their intentions to persist in college, many other factors outside the campus environment may keep them from re-enrolling. The implication for intervention and practice is that child-care services, counseling, and if possible, financial support must be provided to these students for them to continue their attempts to attain a college degree.

Another finding in the study that at first may be discerned as counterintuitive is the direct and positive relationship that was found from measures of perceived difficulty with English, textbooks, and instruction, to indicators of commitment to the institution. This relationship makes conceptual sense if one examines the characteristics of the student population in the study. All programs at the two-year institution are set up for students that are ill-prepared academically, older, out of school for a long time, and lacking financial resources. It is believed that those who find academics difficult may feel more at home in this kind of institution. It may be that these students feel that it is the only institution into which they will be admitted and where they may be able to learn. This finding is further substantiated by other relationships that were found to be

significant and highly influential on institutional commitment. Cultural affinity, or a sense of feeling at home at their institution based on a strong Hispanic influence, was found to affect student satisfaction with faculty and instruction in the classroom, as well as making it easier for students to form personal relationships with other students. Those factors were found to subsequently impact the commitment of the student to earning a college degree and commitment to their institution.

Finally, the results further substantiate the impact of academic performance on persistence for minority students that has been reported in the literature (Nora and Cabrera, 1996; Cabrera, Nora, and Castaneda, 1992, 1993). Nora and associates found that the influence of grades on minority students' decisions to withdraw from college were much more influential than for non-minority students. Non-minority students were more affected by their commitment to a specific institution and their social experiences (integration) in deciding to re-enroll for a second year, while minority student decisions were much more affected by their performance in class and the degree to which they felt they were a part of their academic environment. The findings suggest that administrators or practitioners at two-year institutions with Hispanic students that possess similar characteristics as those found for the sample in the study, should put more emphasis on identifying early on those students who require remediation in several academic areas, and as providing extensive tutorial help. In addition, faculty and staff development should address issues related to instruction (e.g., collaborative learning experiences, peer tutoring) and to the creation of validating experiences in the classroom and on campus for all students.

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APPENDIX

Scale (Cronbach Alpha)	Items
Family Responsibilities (.82)	Caring for family members has made it difficult for me to study. Housework has made it difficult for me to study. Family pressures have made it difficult for me to study. Family problems have made it difficult for me to study.
Financial Problems	Financial difficulties have made it difficult for me to study.
Encouragement (.78)	Family members have encouraged and supported me in my decision to study. Friends have encouraged and supported me in my decision to study. Fellow students have encouraged and supported me in my decision to study. Teachers have encouraged and supported me in my decision to study. Advisors have encouraged and supported me in my decision to study.
Cultural Affinity (.77)	Hispanic faculty and staff help me to feel at home in *this institution.** Other Hispanic students help me to feel at home in *this institution.* Hispanic cultural activities help me to feel at home in *this institution.*
Social Integration	Since coming to *this institution*, I have developed close personal relationships with other students.
Satisfaction with Faculty (.72)	I believe the instructors are well prepared for their jobs. I have good relationships with my instructors. I believe that I have learned how to study effectively. The instructions my teachers give me are clear.
Academic Difficulty (.68)	I find classes at *this institution* to be more difficult than I expected. I have problems understanding what I read in English. The textbooks are too hard to read. The teachers are very demanding.

Academic Integration (.69)	How often do you use the library? How often do you come for tutoring help? How often do you use a computer lab outside of class? How often do you meet with instructors outside of class? How often do you meet with your academic advisor?
Goal Commitment	It is important for me to get a college degree.
Institutional Commitment (.89)	I would recommend my friends and relatives to come to *this institution* to study. *This institution* is important in my life. I am certain that *this institution* is the right choice for me. I feel like I belong at *this institution*.
Intent to Persist	It is likely that I will re-enroll next semester.

*For reasons of confidentiality the name of the institution was replaced with the generic term: *this institution.*

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